PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-298708
(43)Date of publication of application : 29.10.1999

(51)Int.Cl. H04N 1/32
H04N 1/00

(21)Application number : 10-099196
(22)Date of filing : 10.04.1998

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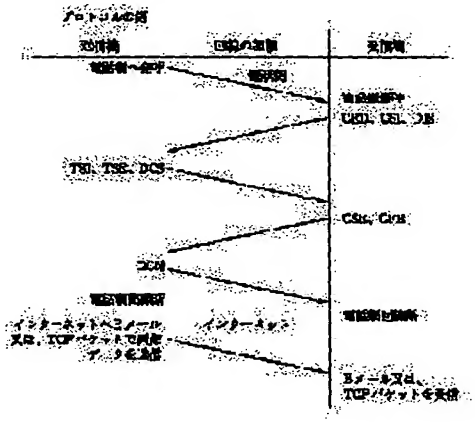
(54) IMAGE COMMUNICATION EQUIPMENT AND IMAGE COMMUNICATION METHOD THEREFOR

(57)Abstract:

PROBLEM TO BE SOLVED: To lower communication cost and to transmit image data by an optimum mode which is matched with the internet fax mode of an opposite side equipment by detecting the internet fax mode provided in the opposite side equipment during communication by a G3 facsimile mode and shifting to the internet fax mode which does not require communication cost, after the internet fax mode of the opposite equipment has been discriminated.

SOLUTION: The initial identification signal of G3 is provided with a bit for indicating the internet fax mode provided on a reception side, capabilities are exchanged in the G3 facsimile mode, the mode is informed, and when the capabilities are exchanged, the internet mail address of this reception side is informed by the option signals of G3. Based on the, a transmission side selects a mode matched with the internet fax mode provided on the reception side and transmits the image data.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

* NOTICES *

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CLAIMS

[Claim(s)]
[Claim 1] Pictorial-communication equipment with the Internet FAX means of communications with two or more Internet FAX modes characterized by providing the following, and G3 facsimile means of communications. A detection means to detect the Internet FAX mode of a partner machine during communication by the aforementioned G3 facsimile means of communications. Control means which perform control which the aforementioned G3 facsimile means of communications is made to cut communication in G3 facsimile mode, and shifts to communication by the aforementioned Internet FAX means of communications based on having detected the Internet FAX mode of a partner machine by the aforementioned detection means.
[Claim 2] In a claim 1, it has a storage means to memorize the function of the aforementioned partner machine. the aforementioned control means The Internet FAX mode of the aforementioned partner machine detected by the aforementioned detection means is made to store in the aforementioned storage means. Pictorial-communication equipment which takes out the Internet FAX mode of the aforementioned partner machine memorized by the aforementioned storage means from the aforementioned storage means, and is characterized by carrying out image data transmission at the aforementioned Internet FAX means of communications according to the Internet FAX mode of the taken-out partner machine.
[Claim 3] It is pictorial-communication equipment characterized by to which mode in Internet FAX mode to switch G3 facsimile means of communications in a claim 1, and transmitting the signal to direct.
[Claim 4] It is pictorial-communication equipment characterized by transmitting the signal with which G3 facsimile means of communications tells the Internet address of a self-opportunity in a claim 1.
[Claim 5] In a claim 2 the aforementioned Internet FAX means of communications It has a transmitting means to transmit E-mail, a conversion means to change the read picture into an image file, and an appending means to append an image file to E-mail. the aforementioned control means Make the DIS signal which the aforementioned G3 facsimile means of communications received correspond to the address of the Internet FAX of a partner machine, and the aforementioned storage means is made to memorize. Pictorial-communication equipment characterized by transforming the picture read according to the DIS information memorized by the aforementioned conversion means at the aforementioned storage means at the time of transmission of the picture by Internet FAX means of communications to an image file.
[Claim 6] It is pictorial-communication equipment characterized by an image file being a TIFF file in a claim 5.
[Claim 7] Pictorial-communication equipment characterized by the aforementioned Internet address being an E mail address in a claim 4.
[Claim 8] In a claim 1, it has a judgment means to judge whether it is the first communication by Internet FAX means of communications with the communication destination. the aforementioned control means By the aforementioned judgment means, it is based on having been judged that it is the first communication by Internet FAX means of communications with the communication destination. G3 facsimile communication is performed in advance of communication by Internet FAX means of communications. It is based on having detected the Internet FAX mode of a partner machine by the aforementioned detection means. Make the aforementioned G3 means of communications cut communication in G3 facsimile mode, and it shifts to communication by the aforementioned Internet FAX means of communications. Pictorial-communication equipment characterized by performing the transmission control of the picture by Internet FAX means of communications according to the Internet FAX mode of the aforementioned partner machine.
[Claim 9] It is pictorial-communication equipment characterized by two or more aforementioned Internet FAX modes being simple mode and full mode and a real time mode in a claim 1.
[Claim 10] It is pictorial-communication equipment characterized by for the aforementioned control means being the

priority beforehand decided out of the Internet FAX mode which the aforementioned partner machine has, and choosing the aforementioned simple mode, full mode, or a real time mode in case it shifts to Internet FAX mode in a claim 9, and making it communicate to the aforementioned Internet FAX means of communications in the selected mode.

[Claim 11] It is pictorial-communication equipment characterized by choosing the aforementioned control means in order of a real time mode, full mode, and the simple mode in a claim 9.

[Claim 12] It is pictorial-communication equipment characterized by choosing the aforementioned control means in order of full mode, a real time mode, and the simple mode in a claim 9.

[Claim 13] It is pictorial-communication equipment which carries out [making the E-mail which appended the image file created by the aforementioned Internet-FAX means of communications according to each mode transmit, when the aforementioned Internet-FAX means of communications has a transmitting means transmit E-mail, a conversion means change the read picture into an image file, and an appending means append an image file to E-mail, in a claim 9 and the aforementioned control means choose the simple mode or the full mode of Internet FAX, and] as the feature.

[Claim 14] It is pictorial-communication equipment characterized by for an image file being a TIFF file in a claim 13, and the aforementioned Internet address being an E mail address.

[Claim 15] It is the claim 9 which is equipped with the following, a TCP packet is made to change a procedure signal and image data into the aforementioned Internet FAX means of communications, is made to transmit them to it according to the facsimile procedure of T30, and is characterized by transforming the TCP packet which received from the partner T30 at it when the aforementioned control means choose a real time mode. The aforementioned Internet FAX means of communications is a means to transmit a TCP packet to an Internet address. A means to receive a TCP packet. A means to change T30 frame into a TCP packet. A means to change a TCP packet into T30 frame.

[Claim 16] Pictorial-communication equipment characterized by having a detection means to detect the Internet FAX mode of a partner machine during communication by the aforementioned G3 facsimile means of communications, and the control means which make a picture transmit to the aforementioned Internet FAX means of communications according to the Internet FAX mode of the partner machine detected by the aforementioned detection means in pictorial-communication equipment equipment with Internet FAX means of communications with two or more Internet FAX modes, and G3 facsimile means of communications.

[Claim 17] In a claim 16, it has a storage means to memorize the function of the aforementioned partner machine. the aforementioned control means The Internet FAX mode of the aforementioned partner machine detected by the aforementioned detection means is made to store in the aforementioned storage means. Pictorial-communication equipment which takes out the Internet FAX mode of the aforementioned partner machine memorized by the aforementioned storage means from the aforementioned storage means, and is characterized by carrying out image data transmission at the aforementioned Internet FAX means of communications according to the Internet FAX mode of the taken-out partner machine.

[Claim 18] In a claim 17, it has a judgment means to judge whether it is the first communication by Internet FAX means of communications with the communication destination. the aforementioned control means By the aforementioned judgment means, it is based on having been judged that it is the first communication by Internet FAX means of communications with the communication destination. the first communication Image data is made to transmit to G3 facsimile means of communications. by the aforementioned judgment means It is based on having been judged that it is not the first communication by Internet FAX means of communications with the communication destination. Pictorial-communication equipment characterized by making image data transmit to the aforementioned Internet FAX means of communications according to the Internet FAX mode of the aforementioned partner machine memorized by the aforementioned storage means.

[Claim 19] It is pictorial-communication equipment characterized by two or more aforementioned Internet FAX modes being simple mode and full mode and a real time mode in a claim 16.

[Claim 20] It is pictorial-communication equipment characterized by for the aforementioned control means being the priority beforehand decided out of the Internet FAX mode which the aforementioned partner machine has, and choosing the aforementioned simple mode, full mode, or a real time mode in case it shifts to Internet FAX mode in a claim 19, and making it communicate to the aforementioned Internet FAX means of communications in the selected mode.

[Claim 21] It is pictorial-communication equipment characterized by choosing the aforementioned control means in order of a real time mode, full mode, and the simple mode in a claim 19.

[Claim 22] It is pictorial-communication equipment characterized by choosing the aforementioned control means in order of full mode, a real time mode, and the simple mode in a claim 19.

[Claim 23] It is pictorial-communication equipment which carries out [making the E-mail which appended the image

file created by the aforementioned Internet-FAX means of communications according to each mode transmit, when the aforementioned Internet-FAX means of communications has a transmitting means transmit E-mail, a conversion means change the read picture into an image file, and an appending means append an image file to E-mail, in a claim 19 and the aforementioned control means choose the simple mode or the full mode of Internet FAX, and] as the feature.
[Claim 24] It is pictorial-communication equipment characterized by for an image file being a TIFF file in a claim 23, and the aforementioned Internet address being an E mail address.
[Claim 25] It is the claim 19 which is equipped with the following, a TCP packet is made to change a procedure signal and image data into the aforementioned Internet FAX means of communications, is made to transmit them to it according to the facsimile procedure of T30, and is characterized by transforming the TCP packet which received from the partner T30 at it when the aforementioned control means choose a real time mode. The aforementioned Internet FAX means of communications is a means to transmit a TCP packet to an Internet address. A means to receive a TCP packet. A means to change T30 frame into a TCP packet. A means to change a TCP packet into T30 frame.
[Claim 26] The pictorial-communication method characterized by cutting communication in the aforementioned G3 facsimile mode and shifting to communication by the aforementioned Internet FAX mode based on having detected the Internet FAX mode of a partner machine during communication by the aforementioned G3 facsimile mode, and having detected the Internet FAX mode of the aforementioned partner machine in the pictorial-communication method with Internet FAX mode with two or more Internet FAX modes, and G3 facsimile mode.
[Claim 27] The pictorial-communication method which memorizes the Internet FAX mode of the detected aforementioned partner machine, and is characterized by carrying out image data transmission in Internet FAX mode in a claim 26 according to the Internet FAX mode of the memorized aforementioned partner machine.
[Claim 28] The pictorial-communication method characterized by transmitting the signal which directs to which mode in Internet FAX mode it switches in a claim 26 when shifting to Internet FAX mode from G3 facsimile mode.
[Claim 29] The pictorial-communication method characterized by transmitting the signal which tells the Internet address of a self-opportunity in G3 facsimile mode in a claim 26.
[Claim 30] It is the pictorial-communication method characterized by to be the mode change the picture read according to the DIS information which the aforementioned Internet-FAX mode changed the read picture into the image file, appended the image file to E-mail in the claim 27, transmitted, and the DIS signal received in the aforementioned G3 facsimile mode was made to correspond to the address of the partner machine of Internet FAX, memorized, and was memorized at the time of transmission of the picture in Internet-FAX mode into an image file.
[Claim 31] It is the pictorial-communication method characterized by an image file being a TIFF file in a claim 30.
[Claim 32] The pictorial-communication method characterized by the aforementioned Internet address being an E mail address in a claim 29.
[Claim 33] In a claim 26, it judges whether it is the first communication by Internet FAX mode with the communication destination. It is based on having been judged that it is the first communication by Internet FAX mode with the communication destination. G3 facsimile communication is performed in advance of communication by Internet FAX mode. It is based on having detected the Internet FAX mode of a partner machine and having detected the Internet FAX mode of a partner machine. The pictorial-communication method characterized by cutting communication in G3 facsimile mode, shifting to communication by Internet FAX mode, and transmitting the picture in Internet FAX mode according to the Internet FAX mode of the aforementioned partner machine.
[Claim 34] It is the pictorial-communication method characterized by two or more aforementioned Internet FAX modes being simple mode and full mode and a real time mode in a claim 26.
[Claim 35] The pictorial-communication method characterized by choosing the aforementioned simple mode, full mode, or a real time mode, and communicating the aforementioned Internet FAX mode in the selected mode in a claim 34 by the priority beforehand decided out of the Internet FAX mode which the aforementioned partner machine has in case it shifts to Internet FAX mode.
[Claim 36] The pictorial-communication method characterized by choosing in order of a real time mode, full mode, and the simple mode in a claim 35.
[Claim 37] The pictorial-communication method characterized by choosing in order of full mode, a real time mode, and the simple mode in a claim 35.
[Claim 38] The pictorial-communication method characterized by making the E-mail which appended the image file created by the aforementioned Internet FAX means of communications according to each mode transmit in a claim 35 when the simple mode or full mode of Internet FAX is chosen.
[Claim 39] It is the pictorial-communication method characterized by transforming the TCP packet which the aforementioned Internet FAX means of communications was made to change a procedure signal and image data into a TCP packet, was made to transmit to it according to the facsimile procedure of T30, and received from the partner to

T30 in a claim 35 when a real time mode is chosen.
[Claim 40] The pictorial-communication method characterized by transmitting a picture in the aforementioned Internet FAX mode according to the Internet FAX mode of the partner machine which detected the Internet FAX mode of a partner machine and was detected in the pictorial-communication method with Internet FAX mode and G3 facsimile mode during communication by the aforementioned G3 facsimile mode.
[Claim 41] The pictorial-communication method which memorizes the Internet FAX mode of the detected aforementioned partner machine, and is characterized by following and carrying out image data transmission of the Internet FAX mode of the memorized aforementioned partner machine in the aforementioned Internet FAX mode in a claim 40.
[Claim 42] In a claim 41, it judges whether it is the first communication by Internet FAX mode with the communication destination. It is based on having been judged that it is the first communication by Internet FAX mode with the communication destination. the first communication Transmit image data in G3 facsimile mode, and it is based on having been judged that it is not the first communication by Internet FAX mode with the communication destination. The pictorial-communication method characterized by transmitting a picture in Internet FAX mode according to the Internet FAX mode of the aforementioned partner machine.
[Claim 43] It is the pictorial-communication method characterized by two or more aforementioned Internet FAX modes being simple mode and full mode and a real time mode in a claim 40.
[Claim 44] The pictorial-communication method characterized by choosing the aforementioned simple mode, full mode, or a real time mode, and communicating the aforementioned Internet FAX mode in the selected mode in a claim 43 by the priority beforehand decided out of the Internet FAX mode which the aforementioned partner machine has in case it shifts to Internet FAX mode.
[Claim 45] The pictorial-communication method characterized by choosing in order of a real time mode, full mode, and the simple mode in a claim 44.
[Claim 46] The pictorial-communication method characterized by making the E-mail which appended the image file created by the aforementioned Internet FAX means of communications according to each mode transmit in a claim 44 when the simple mode or full mode of Internet FAX is chosen.
[Claim 47] It is pictorial-communication equipment characterized by for an image file being a TIFF file in a claim 46, and the aforementioned Internet address being an E mail address.
[Claim 48] It is the pictorial-communication method characterized by transforming the TCP packet which the aforementioned Internet FAX means of communications was made to change a procedure signal and image data into a TCP packet, was made to transmit to it according to the facsimile procedure of T30, and received from the partner to T30 in a claim 44 when a real time mode is chosen.
[Claim 49] Pictorial-communication equipment characterized by to have a notice means of the mode to notify the Internet Internet FAX mode which a self-opportunity has during communication in the aforementioned G3 facsimile mode to a partner machine in pictorial-communication equipment equipment with Internet FAX mode with two or more Internet FAX modes, and G3 facsimile mode, and a notice means of the address notify the Internet FAX address to a partner machine during communication in the aforementioned G3 facsimile mode.
[Claim 50] Pictorial-communication equipment characterized by making the aforementioned notice means of the address notify the aforementioned Internet FAX address to a partner machine according to having received the signal which directs to which mode in Internet FAX mode it switches as a response to the notice of the mode from the partner machine after notifying the Internet FAX mode which a self-opportunity has by the aforementioned notice means of the mode to a partner machine in a claim 49.
[Claim 51] It is pictorial-communication equipment characterized by two or more aforementioned Internet FAX modes being simple mode and full mode and a real time mode in a claim 49.
[Claim 52] A conversion means to change the image file appended to the received E-mail in the claim 51 into the image data for printing according to each mode, It has a record means to record the image data for printing on the recording paper. The simple mode of Internet FAX, Or it is pictorial-communication equipment characterized by for the aforementioned control means making the image data for printing change the aforementioned image file into the aforementioned conversion means when full mode receives E-mail, and making the image data for this printing record on the aforementioned record means.
[Claim 53] It is pictorial-communication equipment characterized by for the aforementioned image file being a TIFF file in a claim 52, and the aforementioned Internet address being an E mail address.
[Claim 54] It is the claim 51 which is equipped with the following, and they make the aforementioned means of communications carry out image data reception when the aforementioned control means receive image data by the real time mode, and is characterized by making the aforementioned image data for printing record on the aforementioned

record means. Means of communications which changes into the image data for printing the image data which received a procedure signal and image data and received by the TCP packet according to the facsimile procedure of T30, changes the procedure signal of T30 into a TCP packet, and transmits. A record means to record the aforementioned image data for printing on the recording paper.

[Claim 55] It is pictorial-communication equipment characterized by transmitting the option frame which transmits an Internet address and notifying the aforementioned Internet FAX address to a partner machine while transmitting a CFR signal according to having received the signal which directs to which mode in Internet FAX mode the aforementioned notice means of the address is switched in a claim 50 from the partner machine.

[Claim 56] The pictorial-communication method characterized by notifying the Internet FAX mode which a self-opportunity has during communication in the aforementioned G3 facsimile mode to a partner machine in the pictorial-communication method with Internet FAX mode with two or more Internet FAX modes, and G3 facsimile mode, and notifying the Internet FAX address to a partner machine during communication in the aforementioned G3 facsimile mode.

[Claim 57] The pictorial-communication method characterized by making the aforementioned Internet FAX address notify to a partner machine according to having received the signal which directs communication by Internet FAX mode as a response to the functional notice from the partner machine after notifying having the aforementioned Internet FAX function to a partner machine in a claim 56.

[Claim 58] It is the pictorial-communication method characterized by two or more aforementioned Internet FAX modes being simple mode and full mode and a real time mode in a claim 56.

[Claim 59] The pictorial-communication method characterized by changing the image file appended to the received E-mail into the image data for printing according to each mode, and recording the image data for this printing on the recording paper in a claim 58 when the simple mode or full mode of Internet FAX receives E-mail.

[Claim 60] It is the pictorial-communication method characterized by for the aforementioned image file being a TIFF file in a claim 59, and the aforementioned Internet address being an E mail address.

[Claim 61] The pictorial-communication method characterized by what the image data which changed the procedure signal of T30 into the TCP packet, transmitted according to the facsimile procedure of T30, received a procedure signal and image data by the TCP packet according to the facsimile procedure of T30, and received is changed into the image data for printing, and is recorded on the recording paper in a claim 58 in case a real time mode receives image data.

[Claim 62] The pictorial-communication method characterized by transmitting the option frame which transmits an Internet address and notifying the aforementioned Internet FAX address to a partner machine while transmitting a CFR signal according to having received the signal which directs to which mode in Internet FAX mode it switches in a claim 57 from the partner machine.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[The technical field to which invention belongs] this invention relates to the Internet FAX equipment transmits and receives as a G3 facsimile by the telephone network, and transmit and receive a picture by Internet FAX through the Internet.
[0002]
[Description of the Prior Art] Conventionally, LAN connection was able to be made at the Internet, and the picture was able to be transmitted [it transmitted and received as a G3 facsimile by the telephone network, and / traffic] and received with unnecessary Internet FAX mode.
[0003] Simple which transmits and receives a TIFF file by E-mail in Internet FAX Mode and Simple There is RealTimMode which transmits and receives a packet on real time by the TCP packet with FullMode which can perform the capacity exchange which notifies a function between a transmitter and a receiver in addition to the function of Mode, and the attainment check of image data.
[0004] However, the mode of Internet FAX has a limit peculiar to each mode.
[0005] Simple the picture which Mode can transmit -- A4 size and 200 -- it is restricted to DPI and MH
[0006] Full Although there is no limit in the picture which Mode can transmit, before transmitting, it is necessary to acquire the capacity of a partner machine with another means, and this time is needed for an excess.
[0007] Real Time Since there is no limit in the picture which Mode can transmit and T30 procedure is obstructed as it is, the capacity of a partner machine can also be known immediately. However, it does not sometimes pass by setup of the fire wall by which the packet of TCP has connected LAN with the Internet, and there is no guarantee which can always communicate with which partner.
[0008]
[Problem(s) to be Solved by the Invention] However, by the aforementioned conventional system, it was not able to know of which Internet FAX a partner would have the mode in communication in G3 facsimile mode.
[0009] Furthermore, in communication by the G3 facsimile mho, it was not able to know whether a partner would have an Internet address.
[0010] Therefore, there was a trouble which traffic cannot change from G3 facsimile mode to the optimal mode in unnecessary Internet FAX mode.
[0011] The purpose of this invention solves the technical problem of the aforementioned conventional technology.
[0012] It aims at offering the equipment which can be told against the mode of Internet FAX being in a self-opportunity in G3 facsimile mode especially.
[0013] Moreover, it tells against the Internet address of a self-opportunity in G3 facsimile mode, and aims at offering the Internet FAX equipment which has the G3 facsimile function and Internet FAX function which traffic can change from G3 facsimile mode to the optimal mode in unnecessary Internet FAX mode.
[0014]
[Means for Solving the Problem] Made the aforementioned G3 facsimile means of communications cut communication in G3 facsimile mode, and it had the control means which perform control which shifts to communication by the aforementioned Internet-FAX means of communications in the claim 1 of this invention based on having detected the Internet-FAX mode of a partner machine by detection means detect the Internet-FAX mode of a partner machine during communication by the aforementioned G3 facsimile means of communications, and the aforementioned detection means in pictorial-communication equipment with Internet-FAX means of communications with two or more Internet-FAX modes, and G3 facsimile means of communications.
[0015] In the claim 16 of this invention, it had a detection means to detect the Internet FAX mode of a partner machine

during communication by the aforementioned G3 facsimile means of communications, and the control means which make a picture transmit to the aforementioned Internet FAX means of communications according to the Internet FAX mode of the partner machine detected by the aforementioned detection means in pictorial-communication equipment equipment with Internet FAX means of communications with two or more Internet FAX modes, and G3 facsimile means of communications.

[0016] In the claim 49 of this invention, it had a notice means of the mode to notify the Internet FAX mode which a self-opportunity has during communication in the aforementioned G3 facsimile mode to a partner machine, and a notice means of the address to notify the Internet FAX address to a partner machine during communication in the aforementioned G3 facsimile mode, in pictorial-communication equipment equipment with Internet FAX mode with two or more Internet FAX modes, and G3 facsimile mode.

[0017]

[Embodiments of the Invention] Hereafter, the example of this invention is explained, referring to a drawing.

[0018] Drawing 1 is the block diagram showing one example of the pictorial communication by the Internet FAX (facsimile) equipment of this invention.

[0019] In drawing 1 , 1 is Internet FAX equipment which operates as a transmitting side which sends a picture. 2 is Internet FAX equipment which operates as a receiving side which receives a picture. Since it is the same as the Internet FAX equipment 1 of a transmitting side, the internal structure of Internet FAX equipment 2 is not illustrated.

[0020] 3 is a telephone network used in order to perform G3 facsimile communication. 4 is the Internet. In the gestalt of this operation, the Internet 4 is used as a network for communicating E-mail.

[0021] 5 is CPU which controls Internet FAX equipment 1. 6 is the scanner section which reads a manuscript and is changed into image data. 7 is the printer section which prints image data as a picture on the recording paper.

[0022] 8 is a FAX modem which communicates in G3FAX mode, and carries out the strange recovery of the procedure signal and picture signal of G3FAX. 9 is NCU (network control unit), and it connects with a telephone network 3 (telephone line), and it performs the interface of the call origination of a circuit, a call in, and an analog signal. NCU9 performs connection of a circuit, and cutting of a circuit by control of CPU5.

[0023] 10 is an Ethernet interface (Ethernet interface) connected to the Internet, and exchanges a digital signal as a packet of TCP/IP.

[0024] 11 is ROM in which the control program and control data of Internet FAX 1 which CPU5 performs are stored. It is RAM which stores control data and the transmitting destination data of a picture while 12 is accessed in case CPU5 performs a control program, and it is used by CPU5 as a work area.

[0025] 13 is the control unit equipped with the one-touch button with which an operator does the directions input of the transmitting destination at the time of transmission.

[0026] First, the communicate mode which Internet FAX has first is explained.

[0027] With the form of operation of this invention, it has G3FAX mode, the simple mode (Simple Mode) of Internet FAX, full mode (Full Mode), and a real time mode (Real Time Mode).

[0028] The following is explanation about G3FAX mode. In the communication using the Internet FAX equipment 1 (a transmitter 1 is called below) and the Internet FAX equipment 2 (a receiver 2 is called below) with which it is expressed G3FAX mode to drawing 1 , it is the mode in which a picture is transmitted and received in G3 facsimile mode via a telephone network 3.

[0029] The outline of the operation of an operator in communication with G3FAX mode, operation of a transmitter 1, and operation of a receiver 2 is explained below.

[0030] An operator sets a manuscript to the scanner section 6 of a transmitter 1, and does the depression of the one-touch button of a control unit 13.

[0031] According to it, CPU5 reads destination data (drawing 3) from RAM12 according to the destination directed with the one-touch button. And based on the information registered into destination data, it chooses whether CPU5 transmits image data in which the mode in G3FAX mode or Internet FAX mode.

[0032] Consequently, if G3FAX mode is chosen, the telephone number registered into the destination data of the destination directed with the one-touch button will be read from RAM12 by CPU5. Call origination of CPU5 is carried out to the telephone number read from RAM12 to NCU9. And a receiver 2 is called via a telephone network 3.

[0033] Next, in the scanner section 6 of a transmitter 1, a manuscript picture is read and the read manuscript picture is changed into image data according to the control program (control software) memorized by ROM11 by CPU5.

[0034] On the other hand, the receiver 2 by which call origination was carried out starts auto-receipt according to the usual G3FAX procedure from a transmitter 1.

[0035] In the communication performed between a transmitter 1 and a receiver 2, initial discernment is first performed according to the procedure of T30 of ITU-T. The strange recovery of the procedure signal is carried out with a modem

8, and it is transmitted in that case and received between a transmitter 1 and a receiver 2 via a telephone network 3.
[0036] After initial discernment finishes, in a transmitter 1, with a receiver 2, image data is encoded and transmitted according to the control program (control software) memorized by ROM11, and the image data which received is decrypted, and it is sent to a printer and printed by CPU5.
[0037] A transmitter 1 transmits a procedure terminate signal (EOP signal), after finishing transmission of image data.
[0038] On the other hand, if an acknowledge signal (MCF signal) is received from a receiver 2, a transmitter 1 will transmit a cutting instruction (DCN signal), and will end communication in G3FAX mode.
[0039] The following is explanation about the simple mode (it only abbreviates to the simple mode below) of Internet FAX. In addition, in the communication which used the transmitter 1 and receiver 2 of drawing 1 , a picture is transmitted in Internet FAX mode (simple mode and full mode, real time mode) and received via the Internet 4.
[0040] And in the simple mode, the image file of A4 size encoded by MH coding and the TIFF (Tag Image Data Format) form constituted by the image data of 200DPI is appended to E-mail, and it transmits.
[0041] The outline of the operation of an operator in communication with the simple mode, operation of a transmitter 1, and receiver double ** is explained below.
[0042] An operator sets a manuscript to the scanner section 6 of a transmitter 1, and does the depression of the one-touch button of a control unit 13.
[0043] According to it, CPU5 reads destination data from RAM12 according to the destination directed with the one-touch button. And based on the information registered into destination data, it chooses whether CPU5 transmits image data in which the mode among the three modes in G3 mode and Internet FAX mode.
[0044] Consequently, if the simple mode is chosen, the Internet address registered into the destination data of the destination directed with the one-touch button will be read from RAM12 by CPU5.
[0045] Next, in the scanner section 6 of a transmitter 1, a manuscript picture is read and the read manuscript picture is changed into image data according to the control program (control software) memorized by ROM11 by CPU5.
[0046] And the image data is changed into the attached file of E-mail according to the control program (control software) memorized by ROM11 by CPU5.
[0047] If it finishes changing image data into an attached file, the Internet address read from RAM12 as the destination of E-mail will be set, the protocol of SMTP (Simple Mail Transfer Protocol) which is the protocol which transmits E-mail for the E-mail with which the attached file of image data was appended will be used, and the Internet will be transmitted to a receiver 2 by course through Ethernet.
[0048] On the other hand, a receiver 2 receives E-mail according to the usual SMTP protocol.
[0049] A receiver 2 will detect whether the attached file is appended to E-mail, if E-mail is received. And if the attached file of E-mail is detected, an attached file will judge whether it is image data.
[0050] If an attached file is image data as a result of a judgment, an attached file will be changed into image data, and the changed image data will be sent and printed to a printer.
[0051] The following is explanation about the full mode (it only abbreviates to full mode below) of Internet FAX.
[0052] The E-mail which carries out the image data more than A4 size, 200DPI, and MH coding to full mode at the attached file of E-mail and which could carry out the way and appended the image data as an image file of TIFF form is transmitted. Moreover, a transmitter can be told about the receiver having processed E-mail from a receiver.
[0053] The outline of the operation of an operator in communication with full mode, operation of a transmitter 1, and receiver double ** is explained below.
[0054] An operator sets a manuscript to the scanner section 6 of a transmitter 1, and does the depression of the one-touch button of a control unit 13.
[0055] According to it, CPU5 reads destination data from RAM12 according to the destination directed with the one-touch button. And based on the information registered into destination data, it chooses whether CPU5 transmits image data in which the mode among the three modes in G3 mode and Internet FAX mode.
[0056] Consequently, if full mode is chosen, the Internet address registered into the destination data of the destination directed with the one-touch button will be read from RAM12 by CPU5.
[0057] Next, in the scanner section 6 of a transmitter 1, a manuscript picture is read and the read manuscript picture is changed into image data according to the control program memorized by ROM11 by CPU5.
[0058] Here, the capacity of a receiver 2 shall be beforehand investigated by the E-mail for capacity exchange, and shall be stored in destination data.
[0059] And the image data is changed into the attached file of E-mail according to the control program memorized by ROM11 by CPU5.
[0060] If it finishes changing image data into an attached file, the Internet address read from RAM12 as the destination of E-mail will be set, the protocol of SMTP (Simple Mail Transfer Protocol) which is the protocol which transmits E-

mail for the E-mail with which the attached file of image data was appended will be used, and the Internet will be transmitted to a receiver 2 by course through Ethernet.
[0061] On the other hand, a receiver 2 receives E-mail according to the usual SMTP protocol.
[0062] A receiver 2 will detect whether the attached file is appended to E-mail, if E-mail is received. And if the attached file of E-mail is detected, an attached file will judge whether it is image data.
[0063] If an attached file is image data as a result of a judgment, an attached file will be changed into image data, and the changed image data will be sent and printed to a printer.
[0064] And a transmitter is told about image data having been received and the receiver 2 having been printed by E-mail.
[0065] In a transmitter 1, what transmission terminated normally is stored in a communication history file so that a communication management report can be outputted later, if it is notified by the E-mail from a receiver 2 that it was received by the receiver 2 and image data was printed.
[0066] The following is explanation about the real time mode (it only abbreviates to a real time mode below) of Internet FAX.
[0067] A real time mode is a method according to the procedure of T30 which transmits and receives the frame of the procedure signal of T30 by the TCP packet, makes image data a TCP packet and is transmitted.
[0068] The outline of the operation of an operator in communication by the real time mode, operation of a transmitter 1, and receiver double ** is explained below.
[0069] An operator sets a manuscript to the scanner section 6 of a transmitter 1, and does the depression of the one-touch button of a control unit 13.
[0070] According to it, CPU5 reads destination data from RAM12 according to the destination directed with the one-touch button. And based on the information registered into destination data, it chooses whether CPU5 transmits image data in which the mode among the three modes in G3 mode and Internet FAX mode.
[0071] Consequently, if a real time mode is chosen, the Internet address registered into the destination data of the destination directed with the one-touch button will be read from RAM12 by CPU5.
[0072] Next, in the scanner section 6 of a transmitter 1, a manuscript picture is read and the read manuscript picture is changed into image data according to the control program memorized by ROM11 by CPU5.
[0073] A transmitter 1 tells the arrival by the real time mode using a TCP packet to the receiver 2 of the Internet address of the destination directed with the one-touch button.
[0074] The receiver 2 to which the arrival of a real time mode was notified transmits the DIS frame by the TCP packet.

[0075] A transmitter 1 can investigate the capacity of a receiver 2 by receiving this DIS frame.
[0076] In a transmitter 1, the DCS frame and image data are transmitted by the TCP packet according to the function of the receiver 2 notified with the received DIS frame. At this time, image data is created according to the control program memorized by ROM11 by CPU5 according to the function of the receiver 2 notified with the received DIS frame, and is transmitted by the TCP packet.
[0077] If the DCS frame and image data are received by the TCP packet, a transmitter 1 will carry out the printed output of the picture according to the information on the received DCS frame.
[0078] And the EOP frame is transmitted by the TCP packet from a transmitter 1 after transmission of image data.
[0079] A receiver 2 will transmit the MCF frame by the TCP packet according to this, if the TCP packet of the EOP frame is received.
[0080] The transmitter 1 which received the MCF frame transmits the DCN frame by the TCP packet, and ends transmission of a real time mode.
[0081] A receiver 2 will end reception of a real time mode, if the DCN frame is received by the TCP packet.
[0082] Operation of Internet FAX equipment which operates although it has above G3 facsimile modes and simple modes of Internet FAX, full mode, and a real time mode is explained using drawing 11 from drawing 2 . Drawing 2 is drawing showing the format of the DIS signal of T30. Drawing 3 is drawing showing the format of the DCS signal of T30. Drawing 4 is drawing showing the optional signal of the notice of an Internet address of T30. Drawing 5 is drawing showing the flow chart of G3 transmitting procedure. Drawing 6 is drawing showing the format of destination data. Drawing 7 is drawing showing the example of a protocol. Drawing 8 is drawing showing the flow chart of Internet FAX mode selection. Drawing 9 is drawing showing the flow chart of the send action of Internet FAX equipment. Drawing 10 is drawing showing the flow chart of picture reception operation of Internet FAX equipment. Drawing 11 is the flow chart of TIFF conversion. Since a sending set 1 and a receiving set 2 are equipment of the same composition, explanation of a receiving set 2 explains them using the block diagram of a sending set 1.
[0083] The contents of the DIS signal proposed in the form of operation of this invention here are explained using

drawing 2 .
[0084] The bit (BIT) which expresses the Internet FAX capacity of a format of FIF of a DIS signal to drawing 2 is shown. Although the octet (assignment of the bit of FIF) of DIS is assigned in ITU-T, with the form of operation of this invention, it is assumed that the bit showing Internet FAX capacity was assigned to FIF of a DIS signal. And the existence of the simple mode of Bit X and ** Internet FAX, full mode, and a real time mode is expressed. That is, the existence of the simple mode of Internet FAX which a receiver has, full mode, and a real time mode is expressed by the pattern of the bit X of DIS, X+1, and X+2 like drawing 2 .
[0085] The bit (BIT) which expresses the Internet FAX capacity of a format of FIF of a DCS signal to drawing 3 is shown. Although the octet (assignment of the bit of FIF) of DCS is assigned in ITU-T, it is assumed to be that by which the bit which communicates by switching the communicate mode to the mode of the simple mode of Internet FAX, full mode, or a real time mode, and which carries out thing directions is assigned to FIF of a DCS signal with the form of operation of this invention. And the bit which gives directions using which of the simple mode of Bit X and ** Internet FAX, full mode, and a real time mode to communicate to a receiver is expressed.
[0086] Moreover, these bits X and X+1X+2 shall correspond to the advice-ized bit, when the bit which shows the existence of the simple mode of Internet FAX, full mode, and a real time mode is advice-ized formally in ITU-T.
[0087] Drawing 4 is drawing explaining the optional signal for the notice of an Internet address of T30 proposed with the form of operation of this invention.
[0088] CSI, CIG, and the TSI signal have been used as an option for notifying the telephone number in the procedure of T30 conventionally. In the example of this invention, as a signal for newly notifying an Internet address this time, it is made to correspond to CSI, CIG, and TSI, and CSE, CIE, and a TSE signal are proposed and used. An Internet address shall be stored in FIF in this CSE and CIE, and a TSE signal.
[0089] The CSE signal which is an optional signal is a signal with which the Internet address of a receiver is stored and transmitted to FIF of a frame on a par with the CSI signal which transmits the telephone number. The timing to which a CSE signal is transmitted in T30 procedure is equivalent to CSI.
[0090] The CIE signal which is an optional signal is a signal with which the Internet address of a polling demand machine is stored and transmitted to FIF of a frame on a par with the CIG signal which transmits the telephone number. The timing to which a CIE signal is transmitted in T30 procedure is equivalent to CIG.
[0091] The TSE signal of an optional signal is a signal with which the Internet address of a transmitter is stored and transmitted to FIF of a frame on a par with the TSI signal which transmits the telephone number. The timing to which a TSE signal is transmitted in T30 procedure is equivalent to TSI.
[0092] The situation of transmission and reception of the signal in G3FAX mode in the form of operation of this invention is explained using drawing 7 . Since it operates fundamentally based on T30 well-known procedure, only the difference of the form of operation of T30 well-known procedure and this invention is explained.
[0093] Introduction and a transmitter 1 carry out call origination of the receiver 2 through a telephone network.
[0094] The line connection of the receiver 2 which carried out the call in from the telephone network is carried out to a telephone network, and according to the capacity of the Internet FAX of a self-opportunity, it sets X of DIS, X+1, and X+2 bits, and is transmitted.
[0095] When DIS of a receiver 2 is received, a transmitter 1 by X of DIS, X+1, and X+2 bits The simple mode in the Internet FAX mode of a receiver 2, When the existence of full mode and a real time mode is judged and it judges with a receiver 2 having at least one of the Internet FAX modes If the communicate mode is judged according to the Internet FAX mode selection flow chart (it explains in detail later) shown in drawing 8 and any one of the Internet FAX modes is chosen The bit which shows to which mode in Internet FAX mode it switches is set to X of a DCS signal, X+1, and X+2 bits, and the Internet address of a transmitter 1 is set to the option frame TSE, and it transmits to it.
[0096] If DCS is received, when it judges whether the shift to either of the Internet FAX modes is directed by X of DCS, X+1, and X+2 bits and shift is directed, a receiver 2 transmits CFR, further, stores the Internet address of a self-opportunity in the option frame CSE, and transmits it to it.
[0097] If CFR is received after DCS transmission, since it shifts to Internet FAX mode, a transmitter 1 will transmit and carry out line disconnection of the DCN, and will end communication by the telephone network.
[0098] Line disconnection of the receiver 2 is carried out according to having received DCN.
[0099] And a transmitter 1 shifts to Internet FAX mode, the E-mail which appended the picture data file of TIFF form when it was the simple mode or full mode is transmitted, and if it is a real time mode, the procedure signal and image data of T30 will be transmitted by the TCP packet.
[0100] A receiver 2 changes into the data for printing the picture data file appended to the E-mail received via the Internet, or the image data which received by the TCP packet, and records it on the recording paper.
[0101] Drawing 5 is a flow chart which shows the outline of the send action in the G3 facsimile mode in a transmitter

1. Drawing 5 is the state transition diagram of a transmitter 1, and the flow chart which CPU5 actually performs at the time of transmission is drawing 9 . Drawing 9 is explained later.
[0102] At Step S1 of drawing 5 , it branches by whether it was chosen whether it ******(ed) to perform either of the Internet FAX modes and that G3 facsimile mode is performed as a result of the Internet FAX mode selection explained by drawing 8 .
[0103] When it ****** performing either of the Internet FAX modes, TSE and DCS are transmitted at Step S2. DCS which transmits at Step S2 directs to switch to simple mode and full mode or a real time mode.
[0104] It supervises whether CFR was received at Step S3. If CSE of an option frame is received at this time, the Internet address of the CSE frame is stored in a destination table.
[0105] When CFR is received at Step S3, it is at step S4. DCN is transmitted and disconnection is carried out at Step S5. Then, transmission is started in the mode of Internet FAX at Step S6.
[0106] When G3 facsimile mode is chosen at Step S1, DCS which does not direct a change in Internet FAX mode at Step S7 is transmitted, and a training signal is transmitted at Step S8. After that, picture transmission is performed according to the usual procedure of T30.
[0107] Next, the outline of reception operation in G3 mode of the gestalt of operation of this invention is explained.
[0108] Since it operates fundamentally based on T30 well-known procedure, only the point used as the feature of the gestalt of operation of this invention is explained.
[0109] According to the capacity of the Internet FAX of a self-opportunity, X of DIS of drawing 2 , X+1, and X+2 bits are set at the time of DIS transmission, and it transmits to it. If DCS transmitted from the transmitter 1 is received, when the inside of the paddle with which shift directions are carried out is judged to Internet FAX mode by X of drawing 3 , X+1, and DCS that received based on X+2 bits and shift is directed, the Internet address of a self-opportunity is stored in the option frame CSE. And CSE and CFR are transmitted, and disconnection of the DCN is received and carried out from a transmitter 1. Image data is received in the Internet FAX mode by which DCS ****** was carried out after that. When the shift to Internet FAX mode is not directed by DCS, CFR is transmitted, and the usual G3 reception is performed. In addition, the Internet address of TSE of the option frame received with DCS is stored in a destination table.
[0110] The format of destination data is shown in drawing 6 . Corresponding to each of two or more one-touch dials or abbreviated dialing, every one of the destination data of this is prepared, and it is memorized by RAM12 of drawing 1 as a destination table with the destination data of these plurality. Hereafter, an one-touch number to be dialed and an abbreviated dialing number are named generically, and it abbreviates to an one-touch number.
[0111] In drawing 6 , when it has the existence in the existence in G3FAX mode (G3FAX function), the telephone number, and Internet FAX mode (Internet FAX function), and Internet FAX mode for every one-touch number, the information which mode it has, the Internet address, and the partner point abbreviated name are stored in RAM12.
[0112] If an one-touch button is pushed by the control unit 13, it consists of Internet FAX equipment of the form of operation of this invention so that the information on the corresponding destination data of an one-touch number (the existence of G3FAX function, the telephone number, the existence of the function in each mode of Internet FAX, an Internet address, partner point abbreviated name) may be read from the destination table of RAM12 by CPU5.
[0113] In drawing 8 , the flow chart of the mode selection of Internet FAX is explained.
[0114] The flow chart of drawing 8 is the program memorized by ROM11, and is performed by CPU5. In addition, the flow chart of drawing 8 is a sub routine called from S203 of drawing 9 .
[0115] If it is an execute permission, and it detects whether there is any real time mode of Internet FAX from DIS of a receiver at Step S101 and there is a real time mode, at a self-opportunity, a real time mode will investigate whether it is an execute permission by S110, and the X-bit real time mode of DCS will be set at Step S111.
[0116] If it is an execute permission, and it detects whether there is any full mode of Internet FAX from DIS of a receiver at Step S102 and there is full mode, at a self-opportunity, full mode will investigate whether it is an execute permission by S108, and the X+1-bit full mode of DCS will be set at Step S109.
[0117] It detects whether there is any simple mode of Internet FAX from DIS of a receiver at Step S103, and at a self-opportunity, the simple mode investigates whether it is an execute permission by simple ******** and S106, and if it is an execute permission, the X+2-bit simple mode of DCS is set at Step S106.
[0118] The mode memorized by the Internet FAX mode of the destination data corresponding to the ** one-touch number directed as the destination at Step S107 is set.
[0119] When all of X of DIS, X+1, and X+2 are 0 at Step S104, those without Internet FAX functional are set to DCS.
[0120] In drawing 9 , the flow of the picture send action of the transmitting side of Internet FAX equipment is explained. The flow chart of drawing 9 is the program memorized by ROM11, and is performed by CPU5.
[0121] If a manuscript is set by the operator and the one-touch dial button of a control unit 13 is pushed, the

information on the one-touch number corresponding to the button (the existence of G3FAX function, the telephone number, the existence of the function in each mode of Internet FAX, an Internet address, partner point abbreviated name) will be read. Here, suppose that the one-touch button 01 was pushed by the control unit.
[0122] The destination 01 shown in drawing 6 is investigated, call origination is carried out to a telephone network to the destination 01 judged as there being no capacity of Internet FAX, and transmission with G3 mode is started.
[0123] After call origination, if DIS is received from a receiver 2 at Step S201, the Internet FAX function of a self-opportunity will be investigated at Step S202, and it will judge whether it is set that communication by Internet FAX mode is possible at a self-opportunity.
[0124] If it is set that communication by Internet FAX mode is possible at a self-opportunity, at Step S203, processing of the Internet FAX mode selection of drawing 8 will be called, and the existence in the Internet FAX mode of DIS which received will be investigated.
[0125] If a receiver 2 is judged more in Internet FAX mode at Step S204, it will progress to Step S205.
[0126] When judged with it not being set at Step S202 that communication by Internet FAX mode is possible at a self-opportunity, and when it is judged with a receiver 2 not having Internet FAX mode, it progresses to Step S216 and image data is transmitted in the usual procedure of T30.
[0127] The Internet address of a self-opportunity is set to the TSE frame at Step S205.
[0128] It detects whether TSE and DCS were transmitted at Step S206, and CFR was received at Step S207 after transmission.
[0129] If a CFR signal is received at Step S207, it would judge whether the CSE signal was received with the CFR signal and the CSE signal will be received, while storing the Internet address in FIF of the CSE frame in a work area at Step S209, it sets to the Internet address of the one-touch number to which a destination table corresponds.
[0130] DCN is transmitted at Step S210 and disconnection is carried out at Step S211 after that.
[0131] If DCS which directed to shift to the simple mode in processing of S206 at Step S212 is transmitted, it will shift to transmitting processing in the simple mode of Internet FAX.
[0132] If DCS which directed to shift to full mode in processing of S206 at Step S213 is transmitted, it will shift to transmitting processing in the full mode of Internet FAX.
[0133] If DCS which directed to shift to full mode in processing of S206 at Step S214 is transmitted, it will shift to transmitting processing of the real time mode of Internet FAX.
[0134] S224 explains the processing when shifting to the simple mode from Step S219.
[0135] Simple transmitting processing of Internet FAX is started at Step S219.
[0136] At Step S220, the Internet address stored in the work area by processing of Step S209 is set to the destination of E-mail.
[0137] An image file is changed into TIFF at Step S221. Under the present circumstances, the picture to transmit is changed into the format of A4 size, 200DPI, and MH coding so that the specification in the simple mode may be suited.
[0138] The image file of TIFF is appended to E-mail at Step S222, and it transmits according to SMTP at Step S223. And it returns to a standby state at Step S224.
[0139] The full mode of Step S217 performs processing similar to the simple mode of Step S219. The difference between full mode and the simple mode is being able to choose the function more than A4 size, 200DPI, and MH coding, when changing image data into the file of TIFF.
[0140] The flow chart of TIFF conversion in full mode was shown in drawing 11 . For details, it explains later.
[0141] Since it is as being the method according to the procedure of T30 which transmit by making it a TCP packet, and having explained the procedure signal and image data of T30 previously by the TCP packet, the real time mode of Step S218 is not explained here.
[0142] In drawing 10 , the flow of the receiving side of Internet FAX equipment is explained. The flow of drawing 10 is a program performed when ROM11 memorizes and Internet FAX equipment operates as a receiving side by CPU5.
[0143] If there is a call from a telephone network, NCU9 will carry out a call in and will start the auto-receipt procedure in G3FAX mode.
[0144] According to whether at Step S301, the Internet FAX mode of a self-opportunity is set up as use is possible, or it is set up that use is impossible, if Internet FAX mode can be used, it will progress to Step S302, and if Internet FAX mode cannot be used, it will progress to Step S322 and will return to the usual procedure of T30.
[0145] According to a setup of the Internet FAX function of a self-opportunity, X of DIS, X+1, and X+2 bits are set at Step S302. And DIS is transmitted at Step S303.
[0146] If a DCS signal is received at Step S304, it judges whether all of X of a DCS signal, X+1, and X+2 bits are 0 at Step S305, and when X bits of a DCS signal are 0, it will progress to S322 and will return to T30 usual procedure.

[0147] It detects whether TSE was received at Step S306, and detects whether TSI was received by S307. If TSE was received and TSI has also received, it progresses to Step S308, and when other, it will progress to Step S309.
[0148] The Internet address of TSE is stored in the Internet address of the destination data corresponding to the telephone number of TSI at Step S308.
[0149] The Internet address of a self-opportunity is stored in a CSE signal at Step S309. CSE/CFR is transmitted at Step S310 and reception of DCN is detected at Step S311. In not receiving DCN, it returns to Step S304.
[0150] If DCN is received at Step S311, line disconnection will be carried out to NCU9 at Step S312. And it returns to the standby state of Step S313.
[0151] If it returns to a standby state at Step S313, since image data will be transmitted in Internet FAX mode from a transmitter, reception in Internet FAX mode is started at Step S315. Here, from Step S314 to S321 is explained that image data has been transmitted in the simple mode.
[0152] Reception of E-mail is performed by SMTP at Step S315.
[0153] The existence of the attached file of E-mail is checked at Step S316, and it is confirmed whether an attached file is a TIFF file at Step S317.
[0154] In Steps S316 and S317, there is an attached file, and if it is detected that it is a TIFF file, it will progress to Step S318, and if it is except it, it will progress to Step S320.
[0155] A TIFF file is changed into image data at Step S318, and image data is outputted by the printer at Step S319.
[0156] The E-mail reception LOG is created at Step S320, and it returns to a standby state by S321.
[0157] In addition, although explained that reception in the simple mode was started at Step S314, even when full mode is started, the same flow as S321 is performed from Step S314. However, in full mode, size (A4 size, B4 size), pixel density (200DPI, 400DPI), and a coding method (MH, MR, MMR, JBIG) become [the TIFF file of S318] more than the simple mode (200 A4 size, DPI, MH).
[0158] Moreover, the procedure signal of T30 will be transmitted and received by the TCP packet, and if a reception start is carried out by the real time mode at Step S314, image data will be received by the TCP packet.
[0159] The flow of conversion of TIFF is explained in drawing 11 . The flow of drawing 11 is a program which is memorized by ROM11 and performed by CPU5.
[0160] If it is 400DPI which investigates the resolution of the picture transmitted at Step S401, it progresses to Step S402, and if it is 200DPI, progresses to Step S404.
[0161] It is judged whether it transmits in full mode whether it transmits in the simple mode at Step S202. If it is full mode, it will progress to Step S404, and when it is the simple mode, resolution conversion is performed at Step S403, and it is changed into 200DPI.
[0162] The size of the picture transmitted at Step S404 is investigated, and if it is B4, it progresses to Step S405, and if it is A4, progresses to Step S407.
[0163] It is judged whether it transmits in full mode whether it transmits in the simple mode at Step S405. If it is full mode, it will progress to Step S407, and in being the simple mode, size conversion is performed at Step S406, and it changes into A4 size.
[0164] It is judged whether it transmits in full mode whether it transmits in the simple mode at Step S207. If it is full mode, according to conditions, the method of JBIG, or MMR, MR and MH will encode.
[0165] If judged with it being the simple mode at Step S407, MH coding will be performed at Step S411.
[0166] The image data encoded by S408 to S411 is changed into the file of TIFF form at Step S412.
[0167] With the gestalt of operation of this invention, a DIS signal notifies the function of the Internet FAX of a receiver to a transmitter as mentioned above, and the Internet address of a receiver is transmitted by CSE of an optional signal. On the other hand, it points to communication by Internet FAX mode by DCS, and G3FAX mode is interrupted for a transmitter. And since communication is performed in Internet FAX mode, image data can be transmitted via the Internet using the mode of the real time mode in the Internet FAX mode suitable for the function of a receiver, full mode, or the simple mode.
[0168] (others -- gestalt of implementation of invention) the gestalt of implementation of the above-mentioned invention showed interrupting T30 procedure and changing to Internet FAX mode However, image data also transmits in G3FAX mode, direct Internet FAX mode is chosen from the transmission which used the one-touch number after the 1st communication next time, and the 1st communication with a certain partner point can also be transmitted.
[0169] Judgment whether to be the 1st communication judges that it is the 1st communication with Internet FAX mode with the destination which has no Internet FAX function like the one-touch number 01 of drawing 6 . You may judge that that the Internet FAX address is not remembered to be besides it is the 1st communication with Internet FAX mode with the destination. Moreover, an Internet FAX function is nothing, or when at least one condition in case the Internet FAX address is not memorized suits, you may judge with it being the 1st communication with Internet FAX

mode with the destination.
[0170] When it is the 1st communication with a certain partner point, a G3 facsimile transmitting mode is chosen by the judgment of drawing 8 of the gestalt of implementation of the above-mentioned invention.
[0171] And a different point from explanation of the gestalt of implementation of invention is a point that the flows of drawing 9 differ, when it is the 1st communication. Only a different point from the gestalt of implementation of invention is explained hereafter, and explanation of the same point is omitted.
[0172] The usual image data of T30 is transmitted after NO of Step S208 of drawing 9 , or execution of Step S209 (training / TCF signal is transmitted, and image data will be transmitted if a CFR signal is received from a receiver 2). The usual EOM signal of T30 is transmitted after transmission of the image data of all the pages of the communication, after that, it progresses to Step S210 and DCN is transmitted. And the 1st communication with the destination is ended.

[0173] In the communication 2nd after the destination, the destination data of the destination of an one-touch destination table are read, and any one of the Internet FAX modes is chosen in the Internet FAX mode selection of drawing 8 after that according to the information on the Internet FAX function of destination data. And image data is transmitted via the Internet after that by processing of Step S219 to the step S224 of drawing 9 .
[0174] Moreover, it is also possible to transmit the picture of memory in Internet FAX mode like the gestalt of implementation of the above-mentioned invention at the time of memory transmission.
[0175] Moreover, even when carrying out call origination using ten key dials other than one-touch, it is also possible to transmit image data in Internet FAX mode like the gestalt of implementation of the above-mentioned invention by storing in the work area of RAM12 with the telephone number which carried out call origination of the FAX function of the receiver received in G3FAX mode with the ten key dial.
[0176]
[Effect of the Invention] The pictorial-communication equipment which has two or more Internet FAX modes and G3 facsimile modes according to the claims 1 and 26 of this invention, Or in the pictorial-communication method, the Internet FAX mode which a partner machine has during communication by G3 facsimile mode is detected. Since communication in G3 facsimile mode is cut and it shifts to communication by Internet FAX mode based on having detected the Internet FAX mode of a partner machine Since it shifts to the Internet FAX mode which traffic does not require in communication in G3 facsimile mode after the Internet FAX mode of a partner machine becomes clear while lowering communication cost -- the Internet FAX mode of a partner machine -- ****** -- image data can be transmitted in the optimal mode
[0177] Moreover, the pictorial-communication equipment which has two or more Internet FAX modes and G3 facsimile modes according to the claims 16 and 40 of this invention, Or in the pictorial-communication method, the Internet FAX mode which a partner machine has during communication by G3 facsimile mode is detected. Since a picture is transmitted in Internet FAX mode according to the Internet FAX mode of the detected partner machine Even if the Internet FAX mode which a partner machine has is not known, the Internet FAX mode which a partner machine has with G3 facsimile mode can be detected, and image data can be transmitted in the optimal mode according to the Internet FAX mode of a partner machine.
[0178] Furthermore, according to the claims 2, 17, 27, and 41 of this invention, the Internet FAX mode which the detected aforementioned partner machine has is memorized. Since image data transmission is carried out in Internet FAX mode according to the memorized Internet FAX mode, when the function of a partner machine is memorized Image data can be transmitted in the optimal mode doubled with the Internet FAX mode which begins, without communicating in G3 facsimile mode, and a partner machine has in shell Internet FAX mode. Traffic becomes cheap while being able to carry out the transmitting start of the image data the part which omitted the communication in G3 facsimile mode which detects the Internet FAX mode which a partner machine has, and early.
[0179] Moreover, the pictorial-communication equipment which has two or more Internet FAX modes and G3 facsimile modes according to the claims 49 and 56, Or since it notifies to a partner machine that the Internet FAX address is the Internet FAX mode which a self-opportunity has during communication in G3 facsimile mode in the pictorial-communication method Even if the Internet address of the Internet FAX mode which a self-opportunity has in a partner machine, and a self-opportunity is not known If it communicates in G3 facsimile mode between partner machines, the Internet address of the Internet FAX mode which a self-opportunity has, and a self-opportunity can be notified to a partner machine, and image data can be received via the Internet from a partner.

[Translation done.]

* NOTICES *

1.This document has been translated by computer. So the translation may not reflect the original precisely.
2.**** shows the word which can not be translated.
3.In the drawings, any words are not translated.

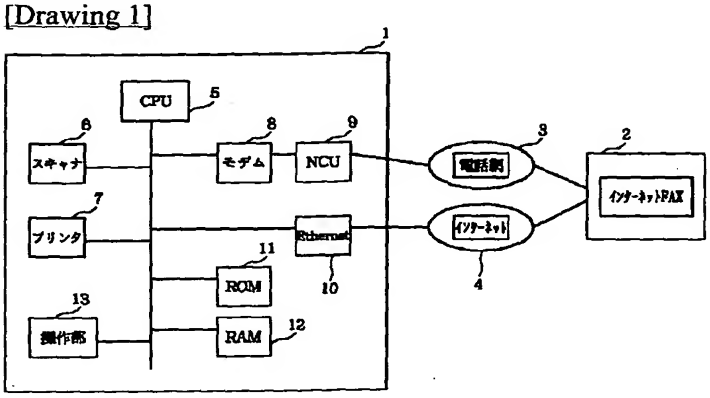
DRAWINGS

[Drawing 4]

インターネットアドレスをおくるオプション信号

Frame Name	Description
CSE	Called Subscriber E-mail Address
CIE	Calling Subscriber E-mail Address
TSE	Transmitting Subscriber E-mail Address

[Drawing 1]



[Drawing 2]

DISのFIFのフォーマット

DIS X bit	DIS X+1 bit	DIS X+2 bit	Description
0	0	0	No Internet Fax Mode
0	0	1	Simple Mode
0	1	0	Full Mode
0	1	1	Simple Mode & Full Mode
1	0	0	Realtime Mode
1	0	1	Realtime Mode & Simple Mode
1	1	0	Realtime Mode & Full Mode
1	1	1	Realtime Mode & Simple Mode & Full Mode

[Drawing 3]

DCSのFIFのフォーマット

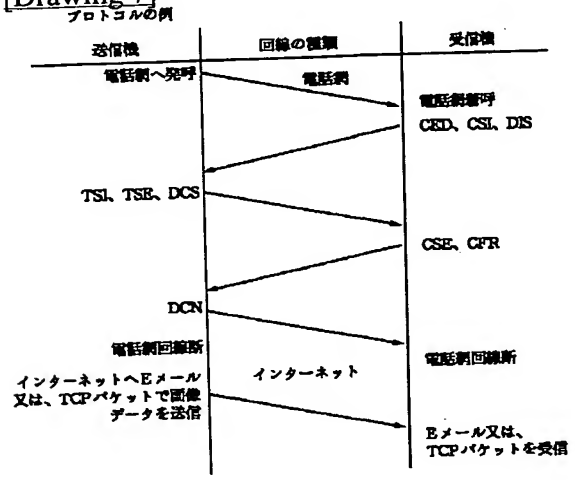
DCS X bit	DCS X+1 bit	DCS X+2 bit	Description
0	0	0	No Internet Fax Mode
0	0	1	Simple Mode
0	1	0	Full Mode
1	0	0	Realtime Mode

[Drawing 6]

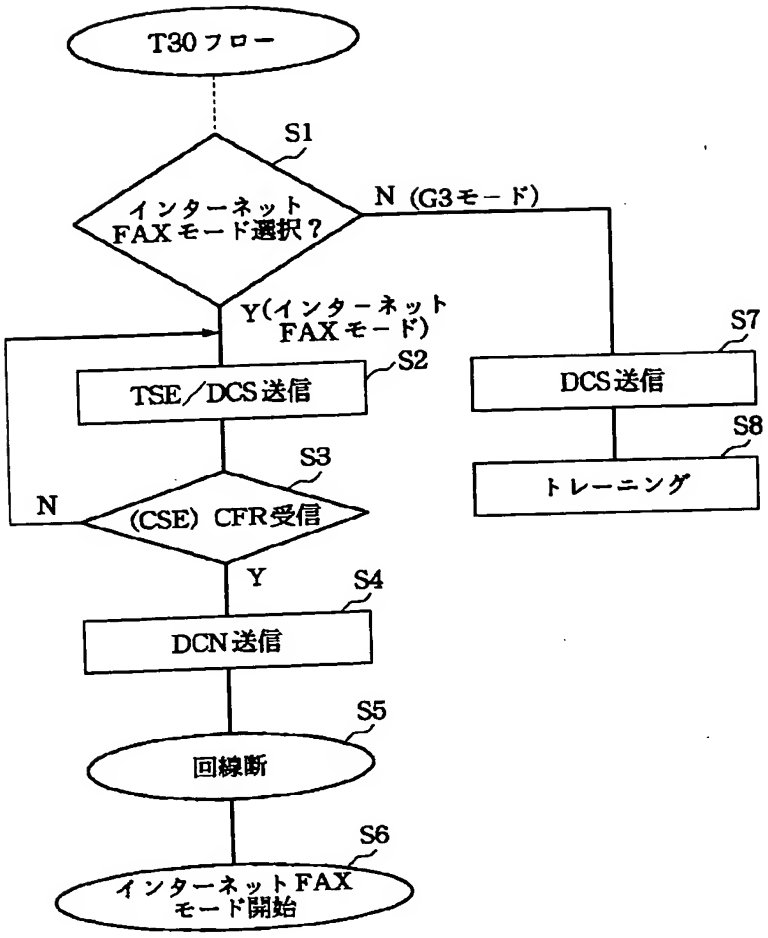
宛先データのフォーマット

ワンタッチ番号	G3FAX機能	電話番号	インターネットFAX機能	インターネットFAXアドレス	相手先略称
01	有り	012－345－6789	無し		キャノG3FAX
02	無し		simple	ifax canon.co.jp	キャノIFAX
03	有り	098－765－4321	Full	ifax canon.com	キャノG3/IFAX
04			RealTime	rt.canon.com	キャノIFAX－RT
05					
06					
07					

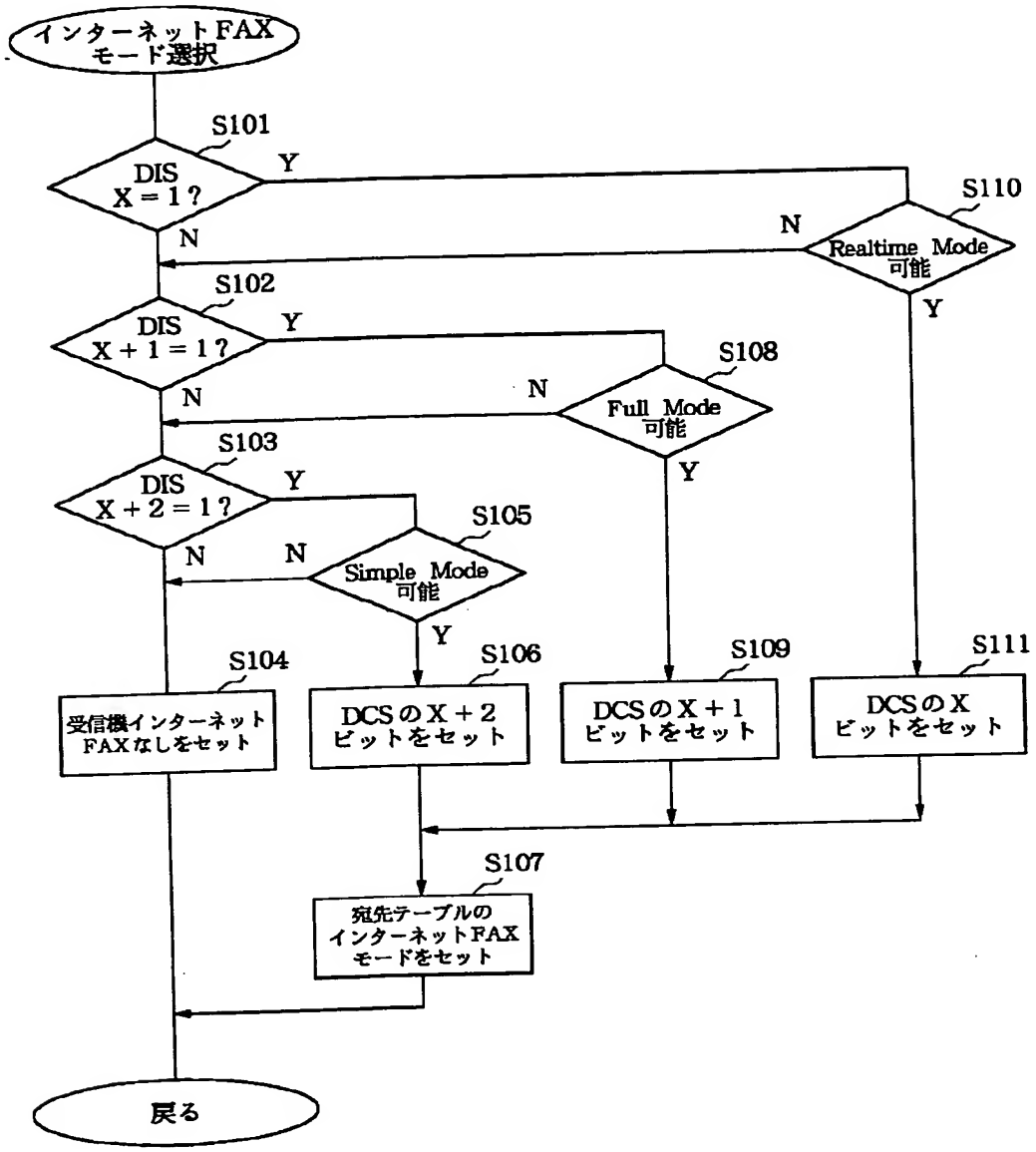
[Drawing 7]



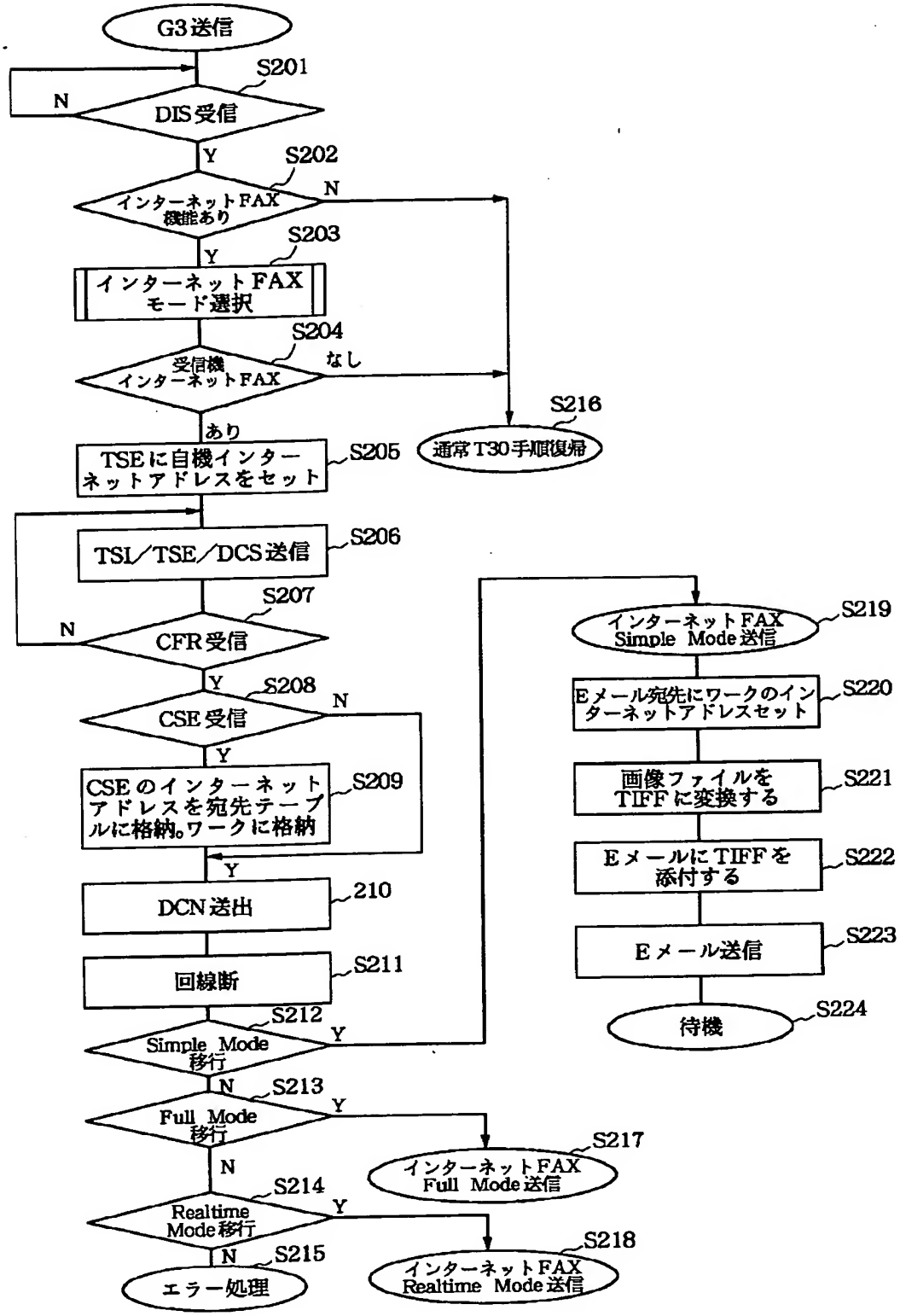
[Drawing 5]


T30フロー
S1
インターネット
FAXモード選択？
N (G3モード)
Y(インターネット
FAXモード)
S7
S2
TSE／DCS送信
DCS送信
S8
S3
トレーニング
N
(CSE) CFR受信
Y
S4
DCN送信
S5
回線断
S6
インターネットFAX
モード開始

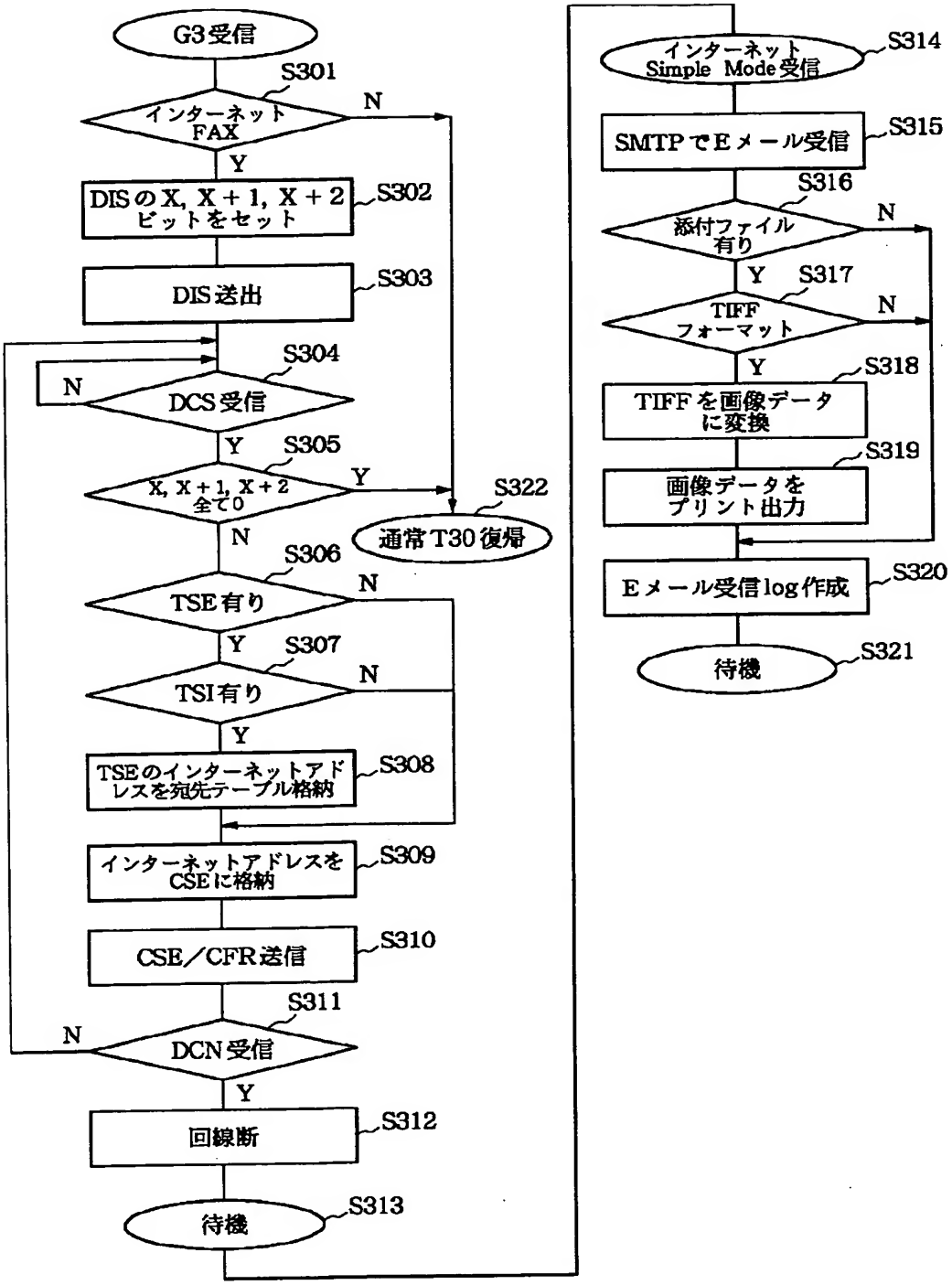
[Drawing 8]


インターネットFAX
モード選択
S101
DIS
X = 1 ?
Y
N
S110
Realtime Mode
可能
N
Y
S102
DIS
X + 1 = 1 ?
Y
N
S108
Full Mode
可能
N
Y
S103
DIS
X + 2 = 1 ?
Y
N
S105
Simple Mode
可能
N
Y
S104
受信機インターネット
FAXなしをセット
S106
DCSのX + 2
ビットをセット
S109
DCSのX + 1
ビットをセット
S111
DCSのX
ビットをセット
S107
宛先テーブルの
インターネットFAX
モードをセット
戻る

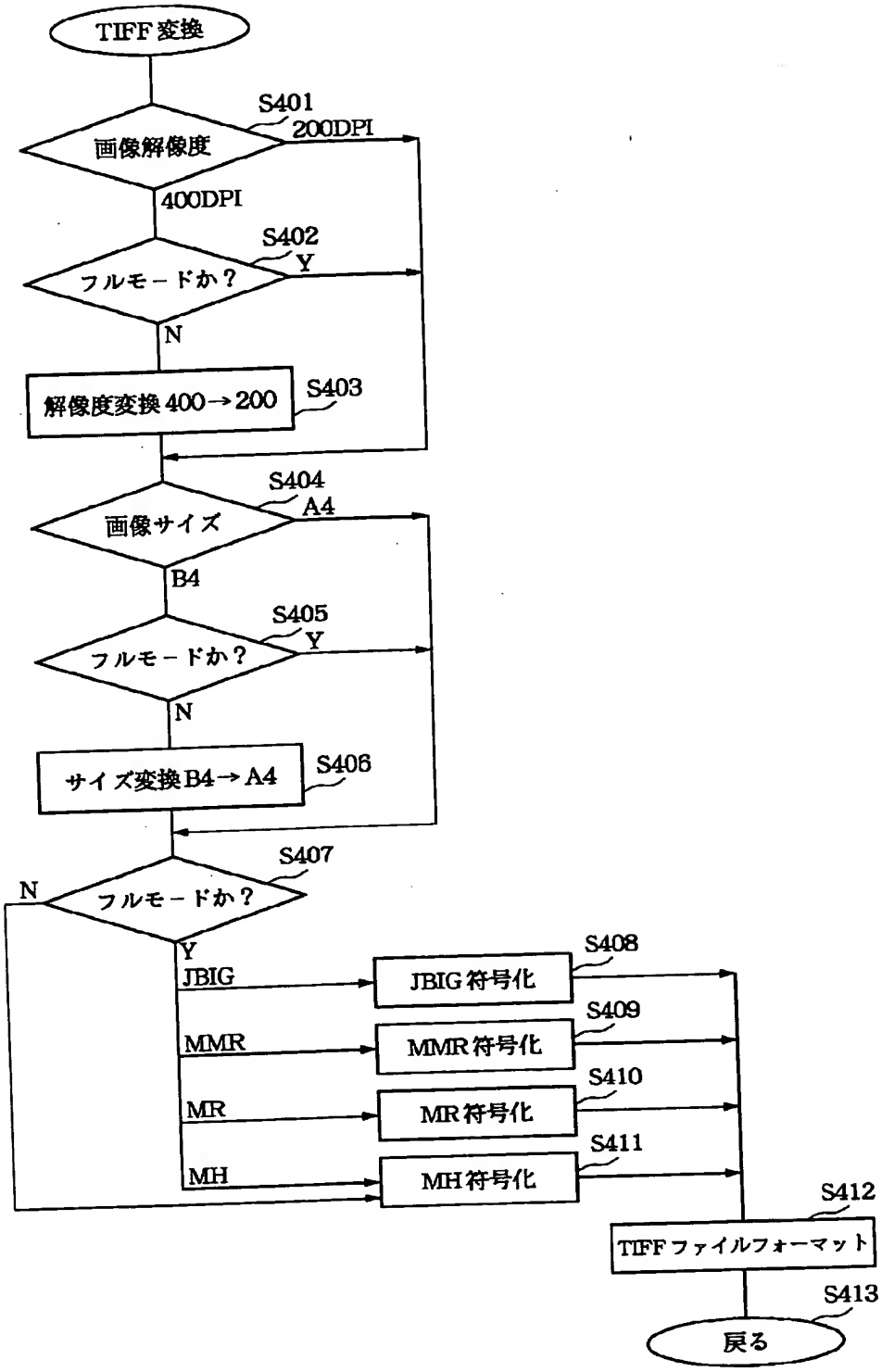
[Drawing 9]


G3送信
S201
DIS受信
N
Y
S202
インターネットFAX機能あり
N
Y
S203
インターネットFAXモード選択
S204
受信機インターネットFAX
なし
あり
S216
通常T30手順復帰
TSEに自機インターネットアドレスをセット
S205
TSL/TSE/DCS送信
S206
S207
CFR受信
N
Y
S208
CSE受信
N
Y
CSEのインターネットアドレスを宛先テーブルに格納。ワークに格納
S209
Y
DCN送出
210
回線断
S211
S212
Simple Mode移行
Y
N
S213
Full Mode移行
Y
N
S214
Realtime Mode移行
Y
N
S215
エラー処理
S217
インターネットFAX Full Mode送信
S218
インターネットFAX Realtime Mode送信
S219
インターネットFAX Simple Mode送信
S220
Eメール宛先にワークのインターネットアドレスセット
S221
画像ファイルをTIFFに変換する
S222
EメールにTIFFを添付する
S223
Eメール送信
S224
待機

[Drawing 10]


G3受信
S301
インターネットFAX
N
Y
DISのX, X+1, X+2ビットをセット
S302
DIS送出
S303
S304
N
DCS受信
Y
S305
X, X+1, X+2全て0
Y
S322
通常T30復帰
N
S306
TSE有り
N
Y
S307
TSI有り
N
Y
TSEのインターネットアドレスを宛先テーブル格納
S308
インターネットアドレスをCSEに格納
S309
CSE/CFR送信
S310
S311
N
DCN受信
Y
回線断
S312
待機
S313
インターネットSimple Mode受信
S314
SMTPでEメール受信
S315
S316
添付ファイル有り
N
Y
S317
TIFFフォーマット
N
Y
S318
TIFFを画像データに変換
S319
画像データをプリント出力
Eメール受信log作成
S320
待機
S321

[Drawing 11]



[Translation done.]